3838 UVA Quartz LED

■ Maximum rating (Ta : 25℃)

Characteristics	Symbol	Min.	Typical	Max.	Unit
DC Forward Current1	IF	---	---	700	mA
Pulse Current(@1/10 duty) 2	Ip	---	---	1000	mA
Forward Voltage	VF	3.2	---	4.4	V
Reverse Voltage	VR	---	---	5	V
Power Dissipation	PD	---	---	4.0	W
Leakage Current (5V)	IR	---	---	10	μA
Junction Temperature3	Tj	---	105	---	℃
Storage Temperature Range	Tsto	-40	–	85	℃
Soldering Temperature	Tsol		---	260	℃
Thermal Resistance Junction / Solder Point	Rth	---	11	---	℃/W
Beam Angle	2θ1/2	---	60/30	---	Deg

✧ Notes:

1. For other ambient, limited setting of current will depend on de-rating curves.
2. D=0.01s duty 1/10.
3. When driving at maximum current the Tj must be kept below 105℃
4. Viewing angle($2\theta_{1/2}$) ± 10°

■ Product List

Peak Wavelength Range	Beam Angle	Part Number
365~370nm	30°	YS-3838V365DG0200
	60°	YS-3838V365CG0200
380~390nm	30°	YS-3838V385DG0200
	60°	YS-3838V385CG0200
390~400nm	30°	YS-3838V395DG0200
	60°	YS-3838V395CG0200
400~410nm	30°	YS-3838V405DG0200
	60°	YS-3838V405CG0200
410~420nm	30°	YS-3838V415DG0200
	60°	YS-3838V415CG0200

■ Peak-Wavelength Binning

Peak Wavelength		unit: nm@700mA
Bin Code	**Min**	**Max**
R	365.0	370.0
SA	380.0	385.0
SB	385.0	390.0
TA	390.0	395.0
TB	395.0	400.0
UA	400.0	405.0
UB	405.0	410.0
VA	410.0	415.0
VB	415.0	420.0

✧ **Notes:**

1. Binning current is 700mA
2. Wavelength tolerance ± 2nm

■ Voltage binning

	Voltage		unit: mw@700mA
Peak Wavelength	**Bin Code**	**Min**	**Max**
365nm	VB	3.4	3.6
	VC	3.6	3.8
	VD	3.8	4.0
	VE	4.0	4.2
	VF	4.2	4.4
385nm **395nm** **405nm** **415nm**	VA	3.2	3.4
	VB	3.4	3.6
	VC	3.6	3.8

✧ Notes:

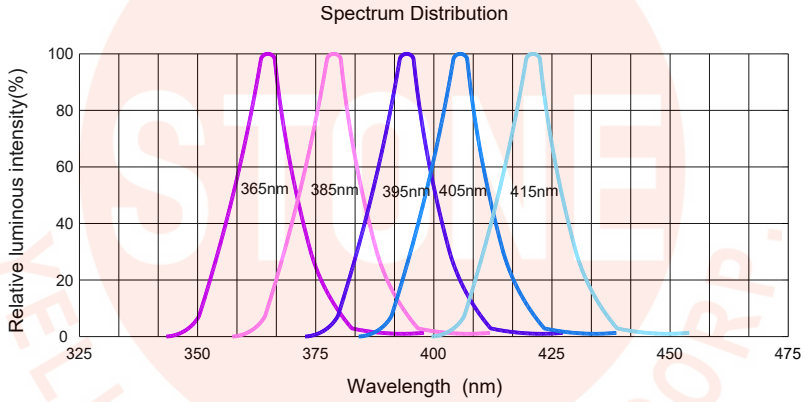
1. Binning current is 700mA
2. Voltage tolerance ± 0.1V

■ Radiant flux (Power) binning

Radiant flux (Power)			unit: mw@700mA
Peak Wavelength	**Bin Code**	**Min**	**Max**
365nm	H1	900	1000
	H2	1000	1100
	H3	1100	1200
	H4	1200	1300
	H5	1300	1400
	H6	1400	1500
385nm	H2	1000	1100
	H3	1100	1200
	H4	1200	1300
	H5	1300	1400
	H6	1400	1500
	H7	1500	1600
	H8	1600	1700
395nm	H2	1000	1100
	H3	1100	1200
	H4	1200	1300
	H5	1300	1400
	H6	1400	1500
	H7	1500	1600
	H8	1600	1700
405nm	H2	1000	1100
	H3	1100	1200
	H4	1200	1300
	H5	1300	1400
	H6	1400	1500
	H7	1500	1600
	H8	1600	1700

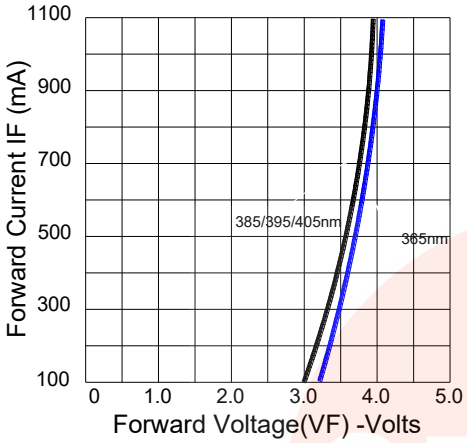
415nm	H2	1000	1100
	H3	1100	1200
	H4	1200	1300
	H5	1300	1400
	H6	1400	1500
	H7	1500	1600
	H8	1600	1700

■ Relative spectral power distribution

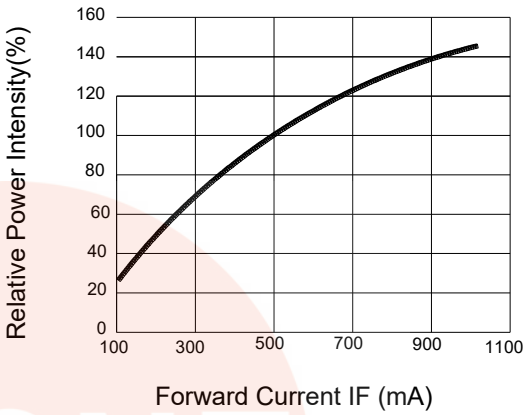


■ Characteristics

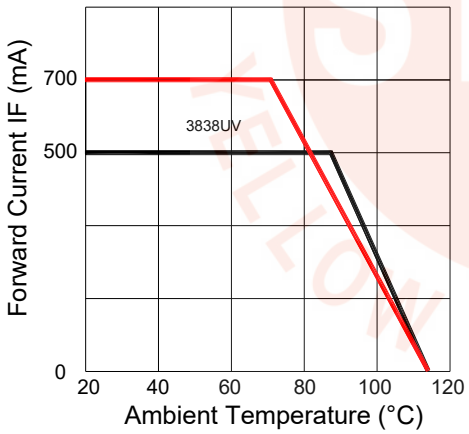
Forward Current VS. Forward Voltage



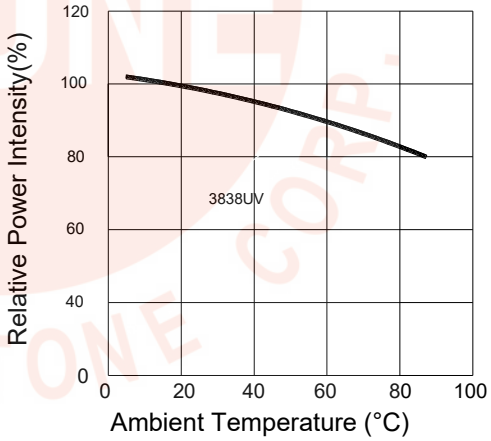
Relative Radiant Flux VS. Forward Current



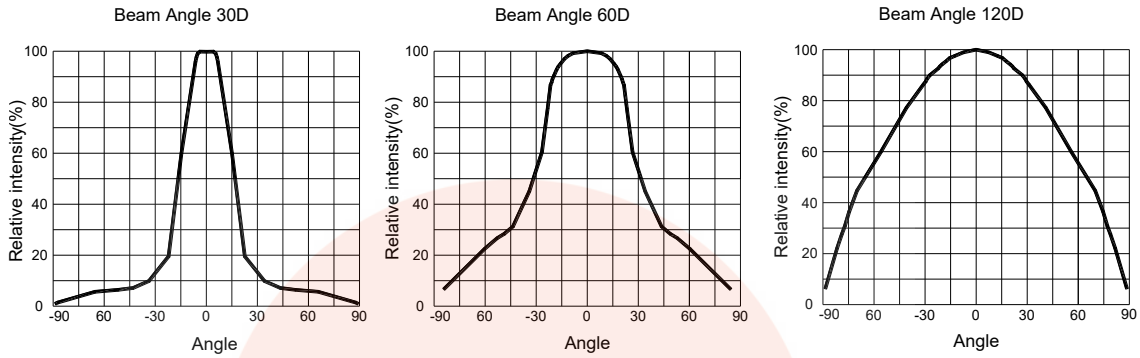
Forward Current VS. Ambient Temperature



Radiant Power VS. Ambient Temperature



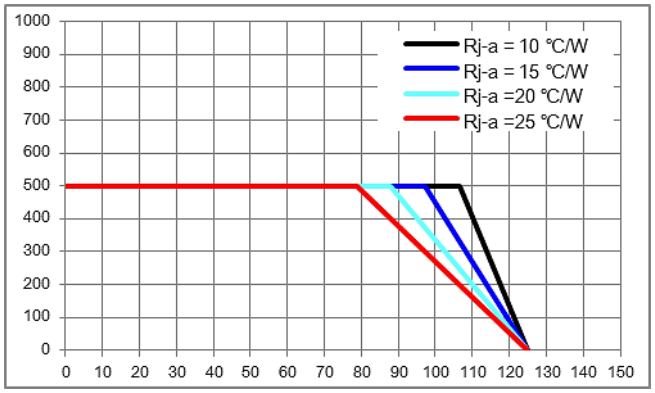
■ Typical spatial distribution ($2\theta_{1/2}$)

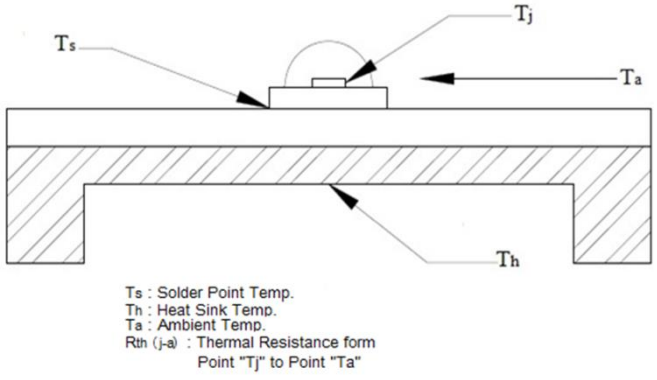


✧ **Notes:**
Viewing angle($2\theta_{1/2}$) ± 10°

■ Thermal design for de-rating

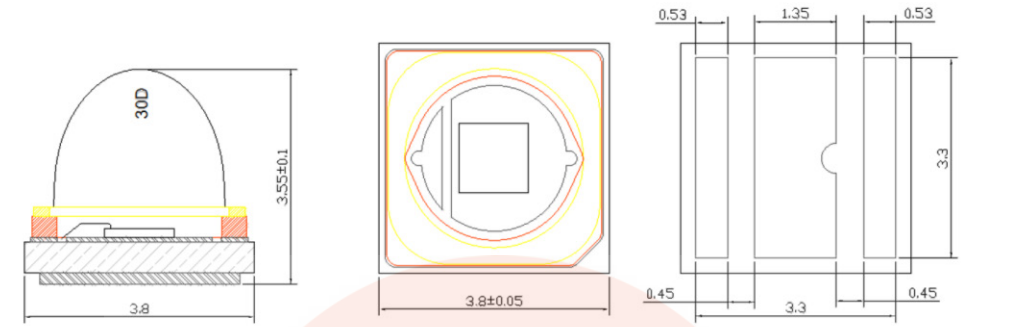
The maximum forward current is determined by the thermal resistance between the LED junction and solder point. It is crucial for the end product to be designed in a manner that minimizes the thermal resistance from the junction to the solder point order to optimize LED life and optical characteristics.

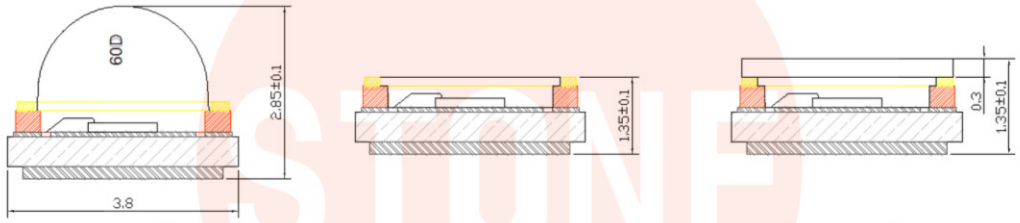




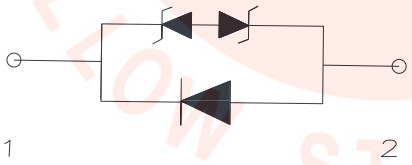
■ Dimensions & Polarity

P





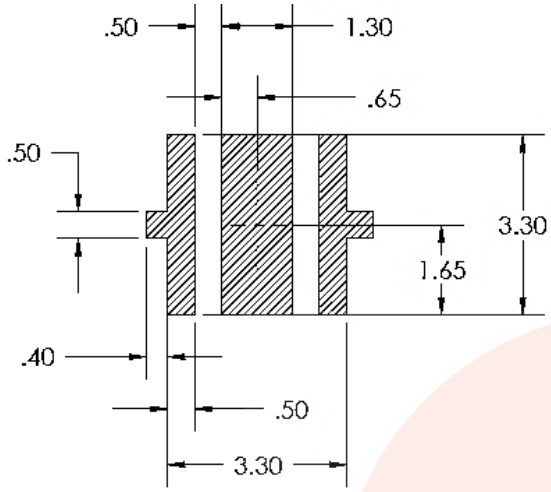
60D



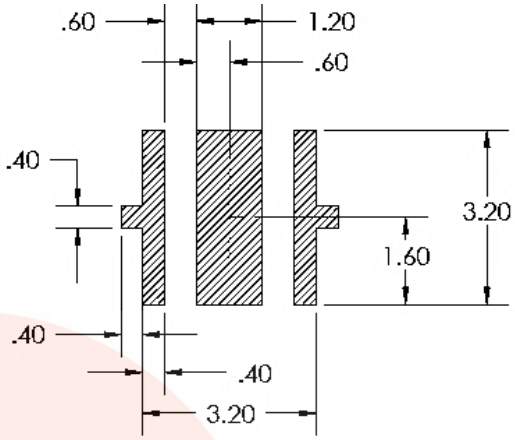
Notes:

§ All dimensions are in millimeters.
§ Tolerance is ±0.13mm unless other specified.

■ Suggest stencil pattern (Recommendations for reference)



RECOMMENDED PCB SOLDER PAD



RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)

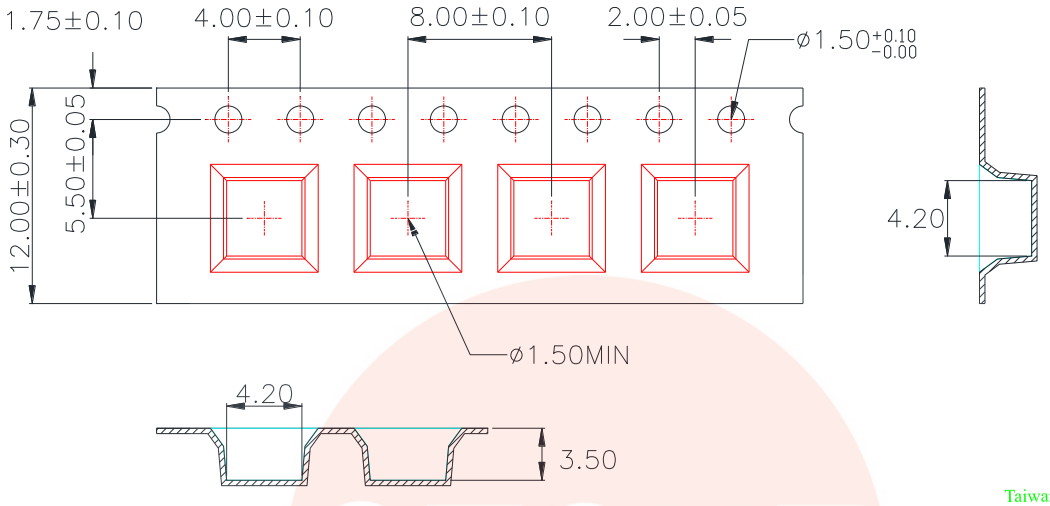
§ Suggest stencil t =0.12 mm

✧ Note:

§ All dimensions are in millimeters.
§ Tolerance is ±0.13mm unless other specified.

■ Packing

3838-30°



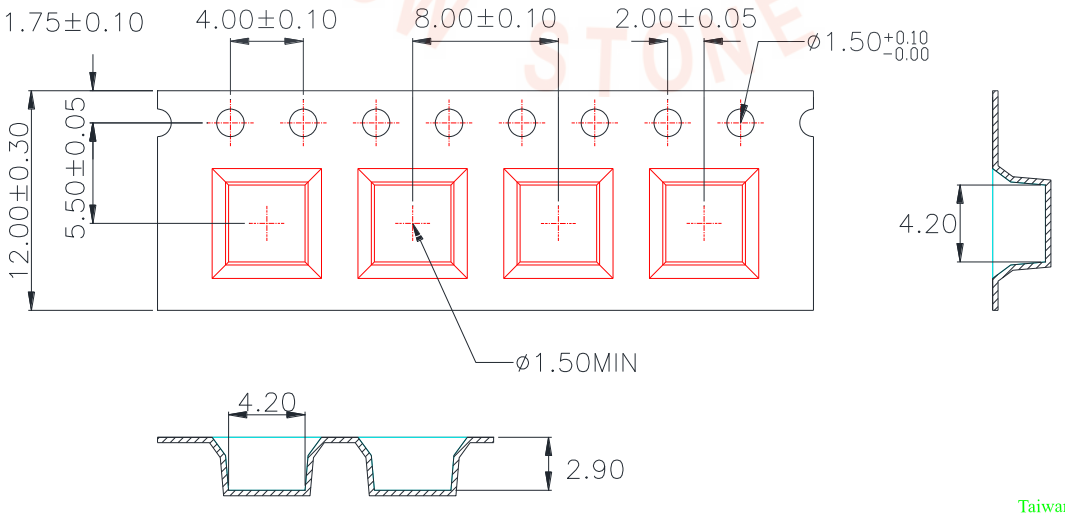
1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30±0.05mm.
6. Packing length per 22 " reel : 62.5 Meters(1:3).
7. Component load per 13" reel : 2500 pcs.

RoHS

Taiwan Patent No：157713
China Patent No：01224591.7

W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	3.50±0.10

3838 60°



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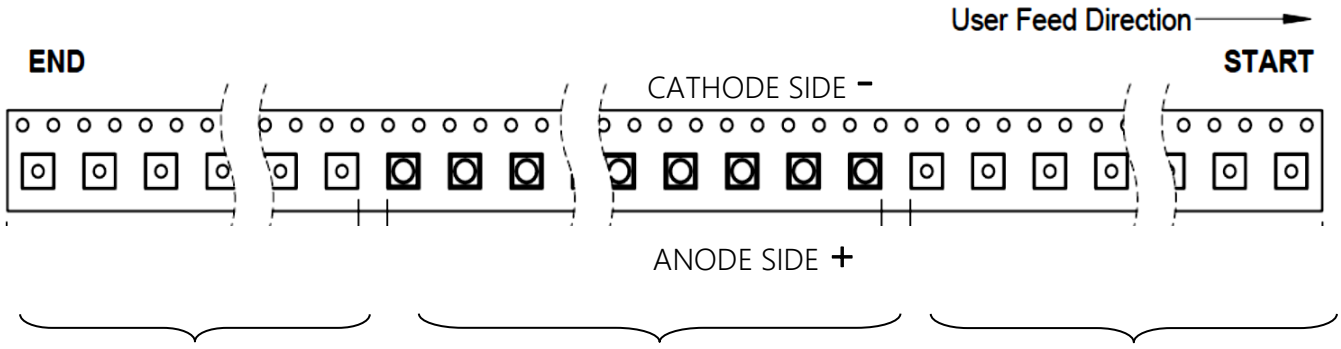
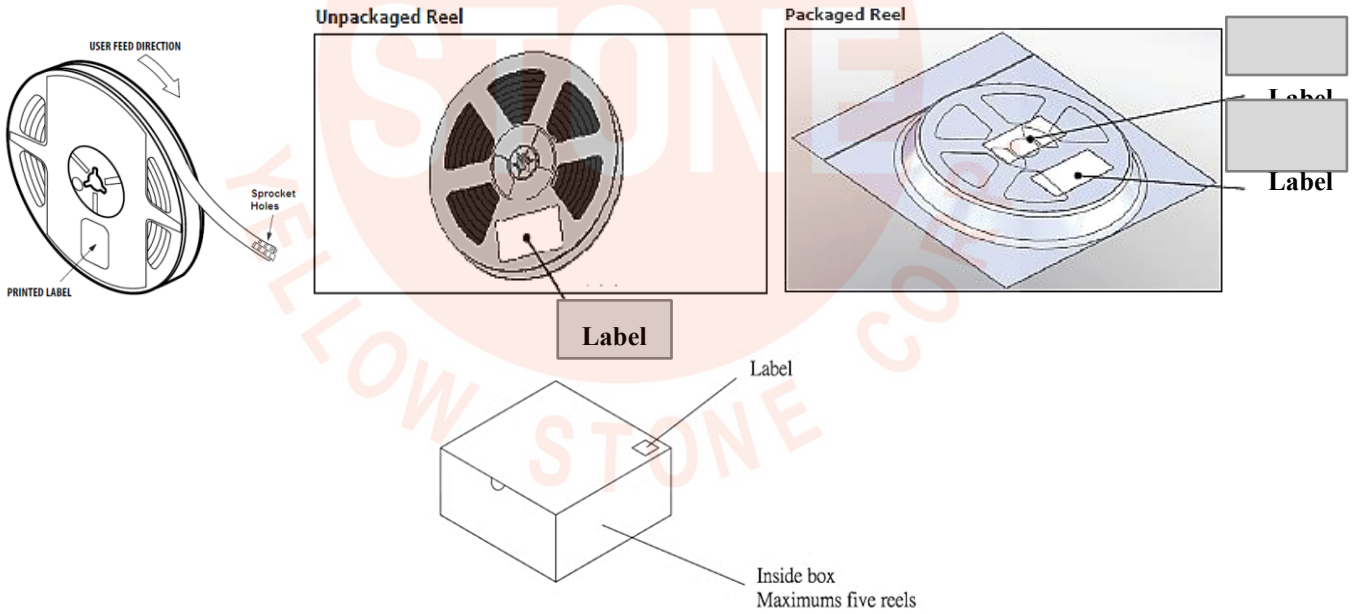
RoHS

Taiwan Patent No：157713
China Patent No：01224591.7

W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	2.90±0.10





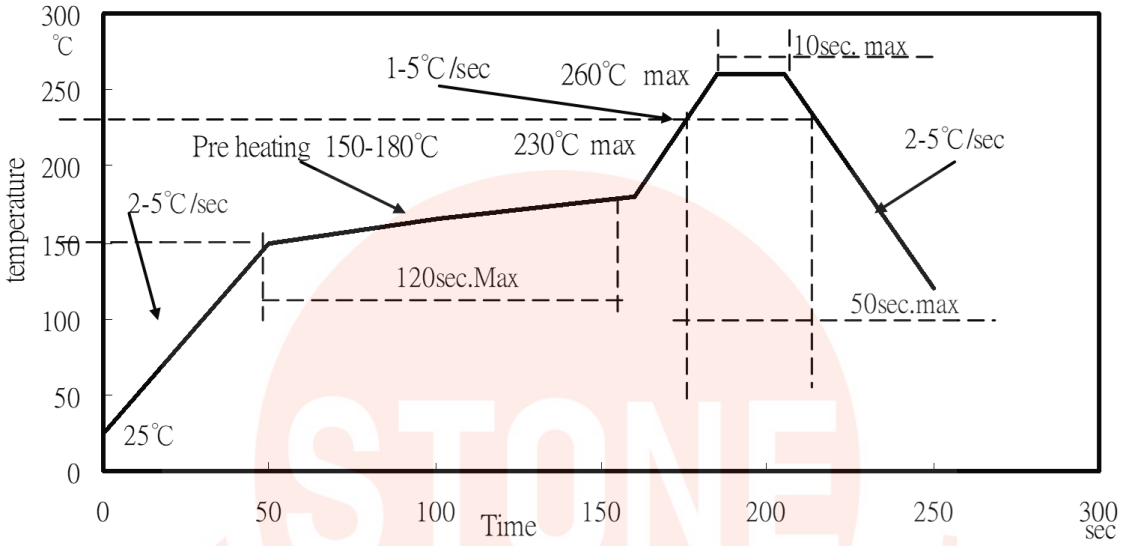
Notes:

1. Each Reel (minimum number of pieces is 100 and maximum is 500(30D)/ 500 (60D)/1000 (120D) is packed in a moisture-proof bag along with 2 packs of desiccant and a humidity indicator card;
2. A maximum of 5 moisture-proof bags are packed in an inner box (size: 240mm x 200mm x 105mm ±5mm)
3. A maximum of 4 inner boxes are put in an outer box (size: 410mm x 255mm x 230mm ± 5mm)
4. Part No., Lot No., quantity should be indicated on the label of the moisture-proof bag and the cardboard box.

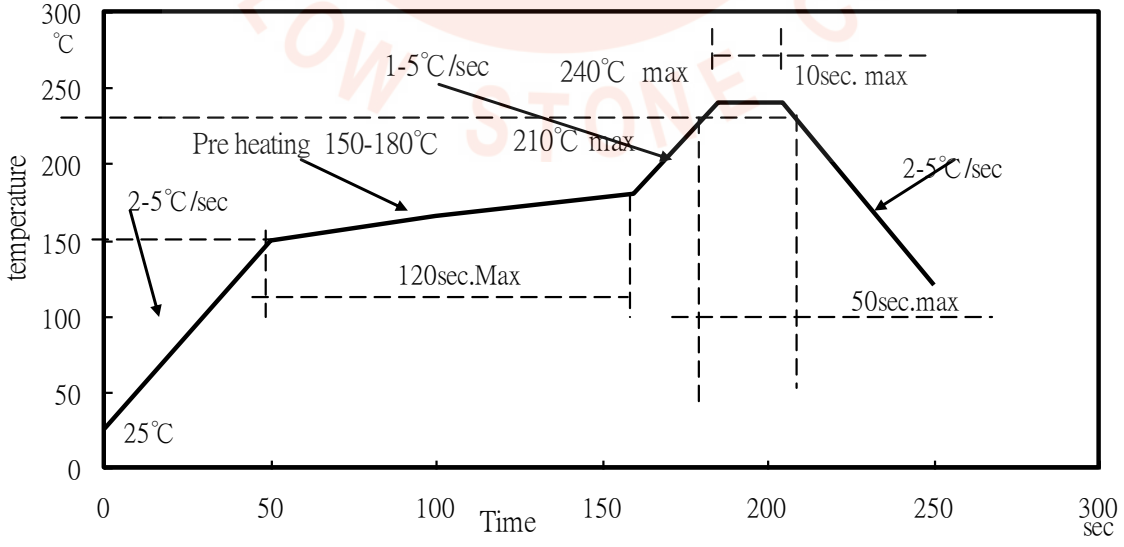
■ Reflow Profile

IR reflow soldering Profile

Lead Free solder



Lead solder

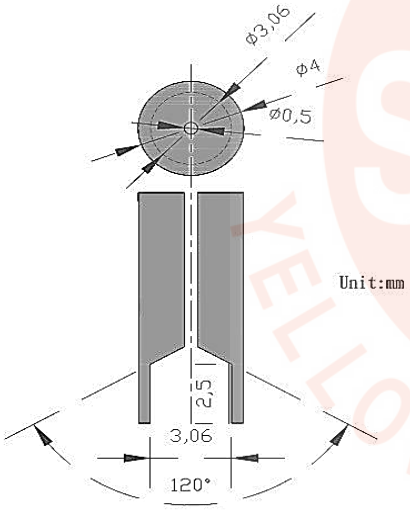


Notes:

1. The recommended reflow temperature is 240°C(±5°C). The maximum soldering temperature should be limited to 260°C.
2. Do not stress the silicone resin while it is exposed to high temperature.
3. The number of reflow process should not exceed 3 times.

■ Precautions

1. Recommendation for using LEDs
   1.1 The lens of LEDs should not be exposed to dust or debris. Excessive dust and debris may cause a drastic decrease in the luminosity.
   1.2 Avoid mechanical stress on LED lens.
   1.3 Do not touch the LED lens surface. It would affect the optical performance of the LED due to the LED lens' damage.
   1.4 Pick & place tools are recommended for the remove of LEDs from the factory tape & reel packaging
2. Pick & place nozzle
   The pickup tool was recommended and shown as below



3. Lens handling
   Please follow the guideline to pick LEDs
   3.1 Use tweezers to pick LEDs
   3.2 Do not touch the lens by using tweezers
   3.3 Do not touch lens with fingers
   3.4 Do not apply more than 4N of lens (400g) directly onto the lens
4. Lens cleaning
   In the case which a small amount of dirt and dust particles remain on the lens surface, a suitable cleaning solution can be applied.
   4.1 Try a gentle wiping with dust-free cloth
   4.2 If needed, use dust-free cloth and isopropyl alcohol to gently clean the dirt from the lens surface.
   4.3 Do not use other solvents as they may directly react with the LED assembly
   4.4 Do not use ultrasonic cleaning which will damage the LEDs